

# THREE DIMENSIONAL NAIL STENCILS AND METHOD OF USE

## Background of the Invention

### Field of the Invention

The present invention is related to three dimensional nail stencils and their use.

### 5 Description of the Related Art

Figure 1 (Prior Art) shows a conventional nail stencil 100 used for decorating fingernails and toenails. See, for example, U.S. Pat. No. 5,873,375 to Johnson, et al. Stencil 100 has one or more cut-outs 102. Stencils are often made of paper or a thin, flexible plastic (on the order of 0.1mm thickness or less). In  
10 use, stencil 100 is placed on a fingernail 104 with a selected cut-out 102 positioned at a chosen spot on nail 1-4. Stencil 100 is held in place as fingernail polish is painted over a cutout 102. When stencil 100 is removed, a design in the shape of the chosen cut-out 102 is left on fingernail 104.

Acrylic for use in decorating nails is also known in the art. Colored acrylic has  
15 recently become available. It is known to apply three dimensional decorations, such as rhinestones, to fingernails.

A need remains in the art for three dimensional stencils for use in applying acrylic to nails to form three dimensional designs.

### Summary of the Invention

20 The present invention is a three dimensional stencil for use in applying white or colored acrylic to nails to form three dimensional designs and comprises a generally flat, flexible portion adapted for contact with a portion of a fingernail or toenail, and a cut-out portion formed within the confines of the flexible

portion. The cut-out portion includes walls having a thickness of at least about 1mm. Up to 3mm thickness or more may be used for deeper patterns. The flexible portion forms an opening adjacent to the cut-out portion.

5 In one embodiment, the flexible portion is itself of a thickness of at least about 1mm, and the cut-out portion forms an opening in the flexible portion. In another embodiment, the cut-out portion comprises walls attached to and extending up from the flexible portion. In the second embodiment, tabs connecting the cut-out portion walls to the flexible portion may be used.

10 As a feature, the flexible portion may be generally nail-shaped, and may further include a sticky layer for sticking the flexible portion to the nail. The flexible portion may include more than one cut-out portion, and the flexible portion may comprise a sheet larger than a nail.

A method of applying a three dimensional acrylic design to a fingernail or toenail with the three dimensional stencil of the present invention includes the  
15 steps of applying the flexible stencil having a cut-out with walls of at least about 1mm thickness to a nail, applying acrylic into the cutout to form a 3-d acrylic design, and removing the stencil. To improve bonding, the method may also include the steps of roughening the nail and/or applying primer prior to applying the stencil. The design may be painted if desired. The process may be  
20 repeated to create multilevel designs.

#### Brief Description of the Drawings

Figure 1(a) (Prior Art) shows a conventional two dimensional stencil for use in applying fingernail polish designs to nails. Figure 1(b) shows a side view of the stencil of Figure 1(a).

25 Figure 2(a) is a top view of a first embodiment of a three dimensional stencil

according to the present invention. Figure 2(b) is a front view of the stencil of Figure 2(a). Figure 2(c) is a front view of the stencil of Figure 2(a) with its backing removed. Figure 2(d) shows the three dimensional stencil of Figure 1(a) in use on a nail.

- 5 Figure 3(a) is a top view of a second embodiment of a three dimensional stencil according to the present invention. Figure 3(b) is a front view of the stencil of Figure 3(a). Figure 3(c) is an isometric view of the three dimensional portion of the stencil of Figure 3(a).

- 10 Figures 4(a), 4(b) and 4(c) are a top views illustrating a third embodiment of a three dimensional stencil according to the present invention. Figure 4(d) shows a top view of a design applied using the stencils of Figures 4(a), 4(b) and 4(c). Figure 4(e) is a front view of the design of Figure 4(d).

- Figure 5(a) is a top view of a fourth embodiment of a three dimensional stencil according to the present invention. Figure 5(b) is a side view of the stencil of  
15 Figure 5(a).

Figure 6 is a flow diagram illustrating the steps used in applying a three dimensional design with a three dimensional stencil according to the present invention.

#### Detailed Description of the Preferred Embodiments

- 20 Figures 2(a) through 5(b) illustrate several preferred embodiments of the present invention, comprising three dimensional (3-d) stencils used to apply three dimensional acrylic design to fingernails and toenails. Figure 6 illustrates the steps followed using these stencil to create 3-d designs.

Figure 2(a) is a top view of a first embodiment of a three dimensional stencil

200. Stencil 200 is formed of a thick, flexible material, such a neoprene, and has one or more cut-outs 202 which provide a template for the acrylic design to be applied. In the embodiment of Figure 2, Stencil 200 is generally nail-shaped and preferably has a sticky surface 208 for adhesion to a nail. Note that  
5 stencil 200 may be formed of a number of different materials, including paper, plastic, metal such as aluminum, or fabric.

Figure 2(b) is a front view of stencil 200. As shown, stencil 200 has considerable thickness, on the order of 1mm or more. Stencils will generally be from about 1mm to 3mm thick. It may include a removable backing 204  
10 covering its sticky surface 208. The dotted lines indicate cut-out 202. Figure 2(c) is a front view of stencil 200 with its backing 204 removed. Once backing 204 is removed, stencil 200 can be applied to a fingernail. Sticky surface 208 holds stencil 200 in place with the design is applied. Cut-out 202 is now open to the nail.

15 Figure 2(d) shows three dimensional stencil 200 in use on a nail. Sticky surface 208 adheres to fingernail 104. Acrylic 206 is poured or otherwise applied into cut-out 202. Once acrylic 206 has partially or fully dried, stencil 200 is removed, leaving the 3-d design on the nail.

20 Acrylic comes in liquid and powdered form. The liquid form may be poured into the stencil. Another method of application is to dip a brush or other implement into liquid acrylic, and then into powder to form a wet ball. This ball may be applied to the stencil cut-out.

Figure 3(a) is a top view of a second embodiment 300 of a three dimensional stencil, illustrating the raised cut-out type of 3-d stencil. Stencil 300 is also  
25 generally nail shaped, and may include a sticky surface 208. However, stencil 300 includes a flexible flat portion 304 and a 3-d cut-out portion 302 attached

to flat portion 304, preferably with tabs 310. Tabs 310 may be spaced apart, as shown in Figure 3(a), or may extend around the entire periphery of cut-out 302. Tabs 310 are not absolutely required, as cut-out portion 302 may be attached to stencil 300 along its edge, but tabs 310 improve the stability of the design. Note that flat portion 304 is open within the periphery of 3-d cut-out portion 302.

Figure 3(b) is a front view of stencil 300, showing raised cut-out 302 attached to flat portion 300 with tabs 310. Figure 3(c) is an isometric view of the three dimensional raised cut-out 302 of stencil 300. In use, acrylic 206 is poured into 3-d raised cut-out 302, which is open at the bottom to nail 104. Once acrylic 206 hardens to the extent desired, stencil 300 is removed.

Figures 4(a), 4(b) and 4(c) are a top views illustrating a third embodiment of a three dimensional stencil according to the present invention. Figures 4(a) through 4(e) illustrate how successive layers of 3-d acrylic may be applied to form a multilevel design. 3-d stencil 400a includes cut-out 402a, 3-d stencil 400b includes cut-out 402b, and stencil 400c includes cutouts 402c. Stencils 400a-c are applied in sequence, and acrylic 206 is poured or otherwise applied into cutouts 402a-c in turn. Acrylic 206 may be painted after each step, or different colors of acrylic (including white) may be used. The 3-d stencil may be of the thick-layer type shown in Figure 2a-d, or the raised cut-out type shown in Figure 3a-c, or a combination of the two.

Figure 4(d) shows a top view of a design applied using stencils 400a-c. Nail 104 now includes a bottom-most design 404a, a middle design 404b, and a top-most design 404c. Figure 4(e) is a front view of the design of Figure 4(d), showing the depths of the design layers. Generally, each design 404 will be of a different color for contrast. Note that while raised designs 404 are shown with

sharp edges, in fact the acrylic beads slightly, so the edges will be somewhat rounded, especially if each stencil is removed before the acrylic fully dries.

Figure 5(a) is a top view of a fourth embodiment of a three dimensional stencil 500 according to the present invention. Stencil 500 may be of the thick-layer form shown in Figures 2(a)-(d) or in the raised cut-out form shown in Figures 3(a)-(c). Stencil 500 may be stuck to nail 104 with a sticky bottom layer, or may simply be held in place.

In use, stencil 500 is applied to nail 104 three times, locating designs 502a-c as desired on nail 104, and applying layers of acrylic as described with respect to Figures 4(a)-(e). The resulting design will be similar to that shown in Figures 4(d) and 4(e).

Figure 5(b) is a side view of one embodiment of stencil 500, based upon the thick-layer form also shown in Figures 2(a)-d. As an alternative, the raised cut-out form of Figures 3(a)-(c) may be used.

Figure 6 is a flow diagram illustrating the steps used in applying a three dimensional stencil according to the present invention. In step 602, the nail is roughened to improve bonding of the acrylic design. In step 604, a primer is applied to the nail, also to improve bonding. Steps 602 and/or 604 may be skipped if the nail design will be removed after a day or two.

In step 606 a stencil (200, 300, 400 or 500) is applied to nail 104. Acrylic 206 is poured or otherwise applied into the cut-out (202, 302, 402, or 502) in step 608. After the acrylic dries sufficiently, the stencil is removed in step 610. The acrylic may be painted if desired in step 612.

Arrow 614 indicates that steps 606-612 may be repeated with a new stencil or portion of a stencil, if a multilayer design is desired. See figures 4(a) through